



SAN BERNARDINO MICROWAVE SOCIETY, Incorporated

FOUNDED IN 1968

A NONPROFIT AMATEUR TECHNICAL ORGANIZATION DEDICATED
TO THE ADVANCEMENT OF COMMUNICATIONS ABOVE 1000 MC.

W6IFE Newsletter

President **Doug Millar, K6JEY** 2791 Cedar Ave Long Beach, CA 90806 562-424-3737
doughhelen@moonlink.net

VP **Dave Glawson, WA6CGR** 23437 E Amberwick Pl Diamond Bar CA 91765 909-861-7036 wa6cgr@ham-radio.com

Recording Sec **Mel Swanberg, WA6JBD** 231 E Alessandro Blvd Riverside, CA 92508 909-369-6515
swanberg@pe.net

Corresponding Sec **Kurt Geitner, K6RRA** 1077 E Pacific Coast Highway #142 Seal Beach, CA 90740 310-710-7810 k6rra@gte.net

Treasurer **Dick Kolbly, K6HIJ** 26335 Community Barstow, CA 92311 760-253-2477 rkolbly@compuserve.com

Editor **Bill Burns, WA6QYR** 247 Rebel Rd Ridgecrest, CA 93555 760-375-8566 bburns@ridgecrest.ca.us

Webmaster Chip Angle, N6CA 25309 Andreo Lomita, CA 90717 310-539-5395 chip@anglelinear.com

ARRL Interface Frank Kelly, WB6CWN 1111 Rancho Conejo Blvd. #501 Newbury Park, CA 91320 805-499-8047 fk@event1.com

W6IFE License Trustee Ed Munn, W6OYJ 6255 Radcliffe Dr. San Diego, CA 92122 619-453-4563
edmunnn@compuserve.com

At the **3 April** 2003 meeting of the SBMS Doug, K6JEY will show video of the Deep Space Tracking Station in Tidbinbilla Australia, along with some pictures and stories of our trip to Australia in December for the eclipse. 2003-4 Elections-- nominations will be asked for from the floor prior to the election. The SBMS meets at the American Legion Hall 1024 Main Street (south of the 91 freeway) in Corona, CA at 1900 hours local time on the first Thursday of each month. Check out the SBMS web site at <http://www.ham-radio.com/sbms/>.

Elections: Nominated last meeting were- President, Dick, WB6DNX; Vice President, Ken, WB6DTA and Chris, N9RIN; Treasurer, Dick K6HIJ; Corresponding Secretary Kurt, K6RRA; Recording Secretary Mel WA6JBD; Newsletter Editor Bill, WA6QYR. Nominations will be called for prior to the election at the April Meeting.

Prez Sez: As I am not able to run again for office due to time constraints, I asked not to be nominated for office again for the club. I want to take this opportunity to thank all of you for your support of the club and myself over the last three years. It has been fun, exciting and challenging to be president of SBMS. My thanks to all of you in the club who have been so supportive of all the things we have done over that period of time. My thanks especially to the officers of the club who help so much in assisting to run the club. It really wouldn't work without your dedicated and consistent efforts. We have a number of individuals and small groups working on various projects and in helping others get on the air. Each month we have seen more and more progress and more and more stations get on the air. I don't know of any other club with the kind of activity we have. We also have

excellent people who through consistent effort keep the club running smoothly. I want to especially thank Dick, K6HIJ, for his work as the treasurer of the club, and Bill, WA6QYR, for his work as newsletter editor.

It has been an honor to be president of such an active and strong club. Surely SBMS is one of the best clubs in the country. I look forward to being just a regular member and doing what I can to help in the club. 73, Doug K6JEY

Last meeting Chuck, WA6EXV talked about the construction and operation of the 1296 MHz to 2304 MHz translator and beacon which was installed on Heaps Peak, DM14kf in November. His handouts are included in this month's letter. Send him your reports of operation through it. Signals from the Friday night 8 pm 1296.1 MHz net can be heard through it. Thanks Chuck. Mike, W6YLZ was presented with the SBMS Plaque for winning the ARRL 10 GHz and Up contest. Bill, K0RZ will receive his in the mail soon. Welcome to visitor Greg Bailey K6QPVo of San Diego. Ken, WB6DTA had a new board for the power supply of last month. See enclosed page. Discussion of where everyone was going and bands to be on was held in preparation for the upcoming 2 GHz and up contest. We are buying a Hysonic 15watt wireless PA system to be used at club functions. Since it is battery powered, we can use it nearly any place we want to. It also has provisions for a wired microphone. Tests of a similar unit at meetings showed it to be a big improvement over the old unit in every respect. <http://www.kaitousa.com/SH120B.htm>. We got a special price. It was agreed to give the old PA to the American Legion. There will be no banquet this year since time has already passed. 25 people present.

Responses to the first SBMS 2 GHz and Up contest.

Activity of the Microwave Group of San Diego in the March 15/16 2003 2 GHz and Up contest was as follows: One and a half inches of rain fell (Monsoon Conditions)! Activity was mostly from indoors pointing out windows toward nearby mountains for bounce to distant stations.

Jack, N6XQ 9 QSOs with 6 Stations on 10 GHz, 1436 Km pts, Pwr Mult=2, Score 4072.

Ed, W6OYJ 4 QSOs with 4 Stations on 10 GHz, 415 Km pts, 10Ghz total = 2445, 1 QSO/1 Station on 2.3 GHz, 2 Km pts, 2.3 GHz total = 306, Score 2751. Pwr Mult 3 both bands.

Chuck, WB6IGP 2 QSOs with 2 Stns on 10 GHz, 404 Km pts Mult=1 Score 604 Note: QSOs by 180 deg bounce off Mt. Miguel.

N6IZW 1 QSO 10 GHz, 25 Km pts, Mult=3, band total=125, 1 QSO 2.3 GHz, 2 Km pts, Mult=3 Band total =306 Score 681.

Total Score for San Diego Group=8108 pts, 18 QSOs. 73s from Ed, W6OYJ

Pat, N6RMJ, Chuck, N6EQ, and Glenn, KE6HPZ were reported as out running around.

Bill, WA6QYR roved on Sunday 3 contacts on 10 GHz; 6 contacts on 3456 MHz, and 6 contacts on 2304 MHz for a total of 3 calls, 15 contacts, 3 bands, 1092 points for SBMS.

Chuck, WA6EXV worked from home on 3 bands: 2304 MHz 126km @ med power X2 + 1 call = 352 points; 3456 MHz 126km @ QRP X3 + 1 call = 478 points; 10368 MHz 40km @ Med power X2 + 3 calls = 380 points; Total Points = 1210, 3 Calls, 15 contacts, points for SBMS.

Scheduling:

1 May Wayne KH6WZ Extremely low loss polarity protection for your microwave rig. Parts kit available at meeting.

5 June Feeding of TWT's

14-16 June VHF QSO Party

28-29 June Field Day

2-3 Aug UHF contest

16-17 Aug 10 GHz and Up contest

13-15 Sep VHF QSO Party

20-21 Sep 10 GHz and Up contest second half

"Wants and Gots" for sale

Want HP715 Power Supply, X13 Klystron, and HP 809 and 810 unit- Ed K6ODV 909-689-1339.

Want ceramic caps 0.005 ufd @ 4kv Mike W6YLZ 881-349-8525

Want 10 GHz antenna and feed Wayne KH6WZ 714-846-1230 kh6wz@arrl.net

For sale #65 0.033 carbide bit Larry K6HLH ljohn@qnet.com

I'm still looking around for a good blue Siemens TWT tube--RW2135 and a couple of junker WR-90 waveguide four port switches. Regards, Frank WB6CWN (805)230-2253

Activity reported at the March SBMS meeting- Doug, K6JEY has 24 GHz SSB on air and will start contest in desert; Mel, WA6JBD has some 6 GHz TWT and worked with brick oscillators; Dick, WB6DNX did some 24 GHz power supply work and learned more about mill operations; Chuck, WA6EXV build the Brooks Shea GPS ref and a pulse generator 100 KHz to 1000 seconds in decades and had them to show; Bill, WA6QYR built some shelves and moved stuff from shop; Rick, W6ESS did some work on his K2 IF radio and some tweaking on the 10 GHz rig; Ken, WB6DTA visited San Diego and will be having relay kit boards next; Ed, W6OYJ had his 2 GHz polarplexer simplexer rig with TVRO LNA 146 MHz IF to show its operation and to listen to the Heaps Beacon during the meeting, He has updated more 24 GHz material to the web site and reiterated the problem with the 3 GHz IF boards in mixer diodes being backwards; Kerry, N6IZW had his tweaking board version of the Pcom modules to show the innerards of bypassing filter and hopes to have documentation completed by end of March; Greg K6QPV plans to be on San Miguel with 10 GHz; Dennis, WA6NIA has his first 2 Meter EME contacts from Inyokern where it is electrically quieter and plans to be out with 10 and 24 GHz; Pat, N6RMJ had WSJT 2 meter contacts with 10 countries and has new tripod for 10 GHz rig; Chris, N9RIN is still working on DBNT rigs; Larry, K6HLH did some 10 GHz rig work; Joonho , KG6MQS needs some help with antenna work; Glenn, KE6HPZ did some sequencer work; Paul, N6DN just getting on 10 GHz; Dick, K6HIJ did some work on building block for Chuck's sub reflector; Bill, KG6CNL is in the acquisition mode; Wayne, KH6WZ is working on a Down East 10 GHz rig; Mike, W6YLZ did some more TWT work; Chip, N6CA did lots of work work; Tony, KC6QHP did some work on his 24 GHz rig and the motor control circuits in the pointing head.

Off the web:

W4WWQ and myself bettered our 120GHz DX to 12.79km on March 10th, 2003. This should be a new World and North American DX record. The former record was held by W0EOM and KF6KVG at 11.6km back in 1999. QSO Details: Date: 3/10/03 Time: 01:24z W4WWQ 37-20-28 79-10-39 FM07ji WA1ZMS 37-25-48 79-16-01 FM07ik Distance: 12.79km Freq: 120.GHz Mode: CW Temp: 11.1C Dew Pt: -4.4C RH: 33% Pressure: 998mb Atmos Loss: 1.22 dB/km Signals on the W4WWQ end were about 8dB S/N, while signals on the WA1ZMS end were only 1 or 2 dB S/N. Since the atmospheric losses at the time were about 1dB/km we decided not to try and push it any farther until we can get better performance out of the gear. Hope to have some 120GHz photos at www.mgef.org over the next few days. 73, Brian, WA1ZMS/4

Hi Brian - good work, but I have been late in announcing that Bob and I did 16.5 km on Fri, Mar 7. We have been trying 120 GHz for the last two weeks and finally got a good day. More details later but basically the same rigs as before with more tweaking. Will

Hi again to all, We (W4WWQ and myself), pushed our 322GHz "DX" to 1.4km on March 4th, 2003.

QSO Details: Date: 3/4/03 Time: 01:17z W4WWQ 37-21-14.7 79-10-13.7 FM07ji WA1ZMS 37-21-23.6 79-11-10.8 FM07ji Distance: 1.432km Freq: 322.6GHz Mode: FSK-CW Temp: 0C Dew Pt: -6.7C RH: 61% Pressure: 992mb Atmos Loss: 10.6 dB/km <---WOW! We likely would have had better results if we had a day with a lower dew point. The QSO on the WA1ZMS end was tough at best. Problems with frequency stability limited the application of weak signal software like Spectran, etc. So good old fashion

5WPM CW and headphones were used. Since one station has a better RX mixer than the other (isn't that always the case!) Pete, W4WWQ had about 6dB of margin on his end while I had 0dB on mine. The gear is the same that was used in the recent past for other 241/322 GHz QSOs. Photos of gear can still be found at www.mgef.org. For this QSO the 80GHz drive level into the diode multiplier was reduced during RX to get a lower conversion loss. I hope that others can get some gear running on +300GHz and

give this DX record a smashing! 73, Brian, WA1ZMS/4

Hi all, well the competition for DX records on 120GHz is continuing. Mother nature gave the local area a blast of cold and dry air last night. I just couldn't pass it up! (Also gave us light snow this morning.) W4WWQ, KA4YNO and myself took to the local hills and managed three QSOs on 120GHz with our best

DX being 20.6km. Date March 11, 2003 Time 03:41z W4WWQ/4 37-22-48.7 79-21-20.3 FM07hj WA1ZMS/4 37-29-46.6 79-32-15.7 FM07fl Distance 20.631km WX on WA1ZMS end of QSO Temp -2.7C Dew Point -18.3C RH 29% Pressure 906mb Calculated loss ~1.09dB/km Interesting point to note, as the WX gets colder, the total loss per km can go UP as oxygen replaces water vapor. Interesting twist for the bands near oxygen absorption lines. The same thing can happen on 75GHz at the low end of the band.

That's it for me on 120GHz. Now it's W0EOM's turn or for someone else to join the competition.

Remember, DX records are made to be broken. Had the WX not turned dry/cold here, I'd be stopped at 12km. Photos and a noisy audio file can be found at http://www.mgef.org/zms_120.htm 73, Brian, WA1ZMS

I wanted to let you know that we will be hosting the 11th International EME Conference in New Jersey in August 2004. The Conference web page is: <http://www.qsl.net/eme2004>. You may want to publish this information in the next issue of your newsletter. The Conference will be of interest not only to EME operators, but also to general VHF/UHF/SHF hams. Thanks, Marc N2UO & Al K2UYH, Organizing Committee, EME 2004.

Hola! Finally got a couple of pictures up from Clint W1LP/mm. Will try and get more up soon.

See: <http://www.ham-radio.com/w1lp>. 73 Chip N6CA

Hello Microwavers, Today we added the two new drawings of Pcom 23 GHz modifications from the SBMS February 2003 Newsletter to the SBMS web pages. The drawings of Sam's (K6VLM) mods for 24 GHz operations were done by WA6QYR and WB6DTA. The drawings were redone to make the component and descriptive labels larger and more legible for the web. One drawing is the "DC Wiring of K6VLM's Pcom mods." And the other is an "Overall Block Diagram of the modified Pcom transverter". This version of the mods does not utilize the original Pcom synthesizer and does not require the Pic processor to set that synthesizer. Part of the synthesizer module is used to amplify the 2640 MHz Qualcomm synthesized VCO signal and the original X4 multiplier in the Pcom module is used to produce the pair of 10560 MHz outputs to drive the LO inputs of the RX and TX modules. You can find these drawings and other Pcom mod info at: <http://www.ham-radio.com/sbms/sd/pc23mods.htm>.

Hello everyone Please amend your listings and/or "favorites" list in your browser. I have now acquired a personal domain name: www.g3pho.org.uk which should now be used instead of the <http://www.g3pho.free-online.co.uk/> address used previously.

This means I can change my ISPs at will without having to change the URL for the website. The www.qsl.net/g3pho URL is also still current and should be used if you don't like the frames version at the new domain. Thanks for viewing! 73 Peter Day, G3PHO Editor RSGB Microwave Newsletter

"The World Above 1000MHz" webpages: www.g3pho.org.uk

Its been awhile that I have written you, my friends. I am sending this out as a blind address to all of you to protect the privacy of your individual addresses, rather than send individual e-mail. I have made a lot friends thru the years so this gets the word out faster.

Most of you know I have been on a couple web search lists for dating (since Dec. 2001). I have even met a few gals over the last year and a half and a couple of you are being sent this message. From the beginning I have had a friend, Janet, who I have written and has become a good friend. We have shared our "adventures in on-line dating" and our disappointments. Finally, we both just ended writing each other having exhausted the list of others. It was obvious we should meet to see if something more than friendship was in store for us.

Feb. 19th I flew down to Gulfport, MS to visit Janet. She is essentially the same age and divorced since 1994, lives in Pass Christian near Gulfport. She is a northwesterner originating from Oregon and living in

southern CA for many years. We spent four fantastic days together. I saw her home, workplace, met her nearby adult son and his girlfriend, her friends and coworkers. We drove around seeing the community and sampled a couple eating places, did a little window shopping, and visited the NASA center nearby (she knew I would like that because of my past employment).

OK, we fell in love! Unbelievable at this later stage in life. WE were just hoping our friendship would blossom some. Well, it did beyond our wildest hopes. This Friday, a week after I got back home to Alaska, I called her and proposed and she accepted. We are engaged. While down in MS we visited a jewelry store and compared tastes in rings. Yesterday, I arranged for her to get hers. So it's official!

It took me awhile to get here...nearly 59 years as a bachelor. Because we both need jobs, it will take some time to figure out which of us will move and where (Alaska or Mississippi). Therefore, we have not set a wedding date (expecting a year, maybe). We will let you know!

Ed and Janet Cole AL7EB

Hi --This is a slightly unusual message; please forgive the intrusion. Although I subscribe to the microwave list because it's a frontier of ham radio that I'm personally exploring, I'm posting this in my capacity as President of TAPR.

As you may know, TAPR supports all sorts of activities related to digital ham radio, from traditional packet to digital voice to spread spectrum. Lately we've been involved around the edges of the movement to use 802.11b hardware for ham operation on 2.4GHz. Although we applaud the ham spirit of innovation that leads to this, we have some real concerns that in the long term, sharing the 2.4GHz 802.11b channels between Part 15 and Part 97

users is going to lead to trouble. We should be doing high speed SS stuff, but we shouldn't be doing it in a shared spectrum that's going to result in us getting blamed for taking down your mom's WiFi network.

But there's all that cheap WiFi hardware out there, and we have all sorts of spectrum on other bands that we're not making much use of.

To solve that problem, TAPR would really like to see a low cost transverter that would hook up to an 802.11b card on one end, and to a [insert your favorite microwave band here] antenna at the other. And you guys are just the ones to do it...

We are willing to provide modest financial support for the development effort (we don't pay by the hour, but can cover material costs and alpha/beta PC board runs, etc.) and can handle kitting and/or production of the final version. Depending on the ongoing involvement in production, some sort of per-unit payment may be workable (that's a matter for negotiation).

We're looking for something simple and low cost, with modest performance (it would be nice to have /a few dB better power output and receiver sensitivity than the typical 802.11b card, just so we can show

value-for-money, but cheap and easy to build are more important attributes than super performance). TX/RX turnaround time may be a challenge, but there are a lot of external amps used with WiFi gear, so the switching time seems should be a surmountable obstacle. It seems to me that 3.3GHz is a good target band, but we're by no means wedded to that.

I sure hope that one of the enthusiasts here will take up this challenge. If you're interested, please drop me a line.

Thanks and 73, John Ackermann, N8UR jra@febo.com <http://www.febo.com> President, TAPR n8ur@tapr.org <http://www.tapr.org>

73's, Bill



Bill, WA6QYR was out roving during the SBMS 2 GHz and Up contest in Indian Wells Valley DM15. His vehicle had a 2304 MHz and 3456 MHz loop yagis mounted on top and the radio gear inside.

The San Bernardino Microwave Society is a technical amateur radio club affiliated with the ARRL having a membership of over 90 amateurs from Hawaii and Alaska to the east coast and beyond. Dues are \$15 per year, which includes a badge and monthly newsletter. Your mail label indicates your call followed by when your dues are due. Dues can be sent to the treasurer as listed under the banner on the front page. If you have material you would like in the newsletter please send it to Bill WA6QYR at 247 Rebel Road Ridgecrest, CA 93555, bburns@ridgecrest.ca.us, or phone 760-375-8566. The newsletter is generated about the 15th of the month and put into the mail at least the week prior to the meeting. This is your newsletter. SBMS Newsletter material can be copied as long as SBMS is identified as source.

San Bernardino Microwave Society newsletter

247 Rebel Road

Ridgecrest, CA

93555

USA